



Overview

An Apple Memory Expansion Card adds as much as a megabyte of user memory (RAM) to any Apple® II personal computer, allowing it to run more sophisticated applications and be used to create larger files. On the Apple IIgs™ personal computer, you'll also be able to run high-performance programs that take full advantage of the computer's amazing sound and graphics capabilities.

Three cards are available: the Apple IIgs Memory Expansion Card, the Apple IIc Memory Expansion Card, and the Apple II Memory Expansion Card (for Apple IIe, Apple II Plus, and Apple II computers).

Features

- ▶ 256K of RAM (random-access memory) standard, which can be increased to as much as 1 megabyte in 256K increments
- ▶ RAM disk capability

Benefits

- ▶ Allows your computer to run more powerful applications.
- ▶ Helps you work faster; by holding large files and applications in memory all at once, it reduces the need for accessing the disk.
- ▶ Gives you the ability to create larger word-processing documents, spreadsheets, and other files when using applications that take advantage of the additional memory, such as AppleWorks® Version 2.0.
- ▶ Lets you choose just the amount of additional memory you need.
- ▶ Lets you store multiple applications and data files in memory simultaneously.
- ▶ Minimizes disk swapping when copying files with a single disk drive.



Product Details

Apple IIGS Memory Expansion Card

The standard Apple IIGS Memory Expansion card comes with 256K of RAM. This can be increased to 512K or 1 megabyte by installing additional memory chips in increments of 256K. (Configuring the card for 768K is not recommended because of the memory-access procedures used by some applications.) Dealer configuration of the card is strongly recommended. The card plugs right into the memory expansion slot of your Apple IIGS. The memory of the Apple IIGS Memory Expansion Card is addressed linearly.

Apple IIc Memory Expansion Card

The Apple IIc Memory Expansion card comes with 256K, and can be upgraded to 512K, 768K, or 1 megabyte of memory, depending on your needs. *The card must be configured and installed by an authorized Apple dealer.* If you buy the card with less than 1 megabyte, you can choose to have it upgraded to greater

capacity later, though this will require additional dealer configuration.

The Apple IIc Memory Expansion Card is designed for use with Apple IIc systems that have a memory expansion connector (those with model number A2S4100). Older systems (model number A2S4000) will need the Apple IIc Memory Expansion Kit, which includes the Memory Expansion Card and a logic board upgrade with the required connector.

Apple II Memory Expansion Card

The Apple II Memory Expansion Card (for the Apple IIe, Apple II Plus, and Apple II) comes with 256K, and can be upgraded to 512K, 768K, or 1 megabyte of memory, depending on your needs. Dealer configuration of the card is strongly recommended.

To start applications directly from the Memory Expansion Card requires an enhanced Apple IIe. If your Apple IIe is not enhanced, contact your local authorized Apple dealer.

This card cannot be used in the auxiliary slot of an Apple IIe. It also cannot be used in Slot 3 of an Apple IIe when the auxiliary slot is occupied.

The Apple II Memory Expansion Card does not substitute for the Apple Extended 80-Column Text Card on the Apple IIe, or the Apple Language Card on the Apple II and Apple II Plus. Programs that require 128K on the Apple IIe will still require the Extended 80-Column Text Card; programs that require 64K on the Apple II and Apple II Plus will still require the Language Card.

RAM Disks

Any of these memory expansion cards can be used as a "RAM disk," holding multiple applications and data files while still leaving memory available for work in progress. (Most copy-protected programs cannot be stored in this way, though sometimes certain portions can be.) This greatly increases the access speed of disk-intensive applications, and of large documents that otherwise could not be stored in memory in their entirety. Note that memory on the card is lost when the computer is turned off, so you must still save your files on a standard disk before stopping work.



Apple II Memory Expansion Cards

System Requirements

To use an Apple Memory Expansion Card, you'll need one of the following systems:

Apple IIGS Memory Expansion Card

- ▶ An Apple IIGS personal computer with a monitor and disk drive

Apple IIc Memory Expansion Card

- ▶ An Apple IIc personal computer (model number A2S4100) with a monitor

Apple IIc Memory Expansion Kit

- ▶ An Apple IIc personal computer (model number A2S4000) with a monitor

Apple II Memory Expansion Card

- ▶ An Apple IIe personal computer (preferably enhanced) with a monitor and disk drive
- ▶ An Apple II Plus or Apple II personal computer with a monitor and disk drive

Technical Specifications

Electrical requirements

- ▶ Voltage: 4.75 to 5.25 volts DC
- ▶ Power consumption

Apple IIGS Memory Expansion Card:

- Operating: 200 milliamps in 256-kilobyte configuration; 600 milliamps in 1-megabyte configuration
- Standby: 140 milliamps in 256-kilobyte configuration; 370 milliamps in 1-megabyte configuration.

Apple IIc Memory Expansion Card:

- Operating: 100 milliamps in 256-kilobyte configuration; 200 milliamps in 1-megabyte configuration
- Standby: 90 milliamps in 256-kilobyte configuration; 180 milliamps in 1-megabyte configuration.

Apple II Memory Expansion Card:

- Operating: 100 milliamps in 256K configuration; 200 milliamps in 1-megabyte configuration
- Standby: 50 milliamps in 256K configuration; 150 milliamps in 1-megabyte configuration

Miscellaneous

- ▶ Operating system compatibility: ProDOS®, DOS 3.3, or Pascal 1.3 (earlier versions of Pascal can be upgraded to version 1.3). (DOS 3.3 programs cannot be booted from the Memory Expansion Card.)

Environmental requirements

- ▶ Ambient temperature: 50° to 104° F (10° to 40° C)
- ▶ Relative humidity: 0% to 95% (noncondensing)



Apple II Memory Expansion Cards

Ordering Information

Apple IIGS Memory Expansion Card

Order No. A2B6002

With your order, you'll receive:

- ▶ Apple IIGS Memory Expansion Card
- ▶ User's guide

▶ Limited warranty statement
Dealer installation of this card is strongly recommended.

Apple IIc Memory Expansion Card

Order No. A2B4156

With your order, you'll receive:

- ▶ Apple IIc Memory Expansion Card
- ▶ User's guide
- ▶ System Utilities disk

▶ Apple II Utilities guide
▶ Limited warranty statement
This card must be installed by an authorized Apple dealer.

Apple IIc Memory Expansion Kit

Order No. A2P4130

With your order, you'll receive:

- ▶ Apple IIc Memory Expansion Card
- ▶ Apple IIc Upgrade Kit
- ▶ User's guide

▶ System Utilities disk
▶ Apple II Utilities guide
▶ Limited warranty statement
This kit must be installed by an authorized Apple dealer.

Apple II Memory Expansion Card

Order No. A2B2086

With your order, you'll receive:

- ▶ Apple II Memory Expansion Card
- ▶ User's guide

▶ Limited warranty statement
Dealer installation of this card is strongly recommended.

Apple 256K Memory Expansion Kit

Order No. A2M2058

To upgrade your card with more memory requires one or more Apple 256K Memory Expansion Kits. If you wish to have a total of 512K on the card, you will need one expansion kit; for 768K, two kits; for 1024K (1 megabyte), three kits. (Upgrading to 768K is not recommended for the Apple IIGS.)

If you have an Apple IIGS or Apple II Memory Expansion Card, dealer installation of the expansion kits is strongly recommended. With the Apple IIc Memory Expansion Card, installation of the expansion kits must be performed by an authorized Apple dealer.